CLAIMS

What is claimed is:

- 1 1. A sensor assembly that is coupled to a latch of a
- 2 child safety seat, comprising:
- 3 a first housing member;
- 4 a second housing member that moves relative to said
- 5 first housing member and is coupled to the latch of the
- 6 child safety seat; and,
- 7 a sensor subassembly that is coupled to said first and
- 8 second housing members and senses a movement of said second
- 9 housing member.
- 1 2. The assembly of claim 1, wherein said second
- 2 housing member includes a ring that is coupled to the latch
- 3 of the child safety seat.
- 1 3. The assembly of claim 1, further comprising a
- 2 biasing spring that is coupled to said first housing member
- 3 and a second housing member.

- 1 4. The assembly of claim 1, wherein said sensor
- 2 subassembly includes a magnet and a Hall Effect sensor.
- 1 5. The assembly of claim 1, wherein said sensor
- 2 subassembly includes a switch that is coupled to said
- 3 second housing member.
- 1 6. The assembly of claim 1, wherein said first
- 2 housing member includes a flange adapted to be mounted to a
- 3 seat frame.
- 7. The assembly of claim 1, wherein said first
- 2 housing member includes a stop that limits the movement of
- 3 said second housing member.
- 1 8. A sensor assembly that is coupled to a latch of a
- 2 child safety seat, comprising:
- 3 a first housing member;
- 4 a second housing member that moves relative to said
- 5 first housing member and is coupled to the latch of the
- 6 child safety seat; and,

- 7 sensor means for sensing a movement of said second
- 8 housing member.
- 9. The assembly of claim 8, wherein said second
- 2 housing member includes a ring that is coupled to the latch
- 3 of the child safety seat.
- 1 10. The assembly of claim 8, further comprising a
- 2 biasing spring that is coupled to said first housing member
- 3 and a second housing member.
- 1 11. The assembly of claim 8, wherein said sensor means
- 2 includes a magnet and a Hall Effect sensor.
- 1 12. The assembly of claim 8, wherein said sensor means
- 2 includes a switch that is coupled to said second housing
- 3 member.
- 1 13. The assembly of claim 8, wherein said first
- 2 housing member includes a flange adapted to be mounted to a
- 3 seat frame.

- 1 14. The assembly of claim 8, wherein said first
- 2 housing member includes a stop that limits the movement of
- 3 said second housing member.
- 1 15. A sensor system that is coupled to a latch of a
- 2 child safety seat that is placed on a seat assembly,
- 3 comprising:
- 4 a sensor that is mounted to the seat assembly and
- 5 coupled to the latch of the child safety seat; and,
- a display that is coupled to said sensor and provides
- 7 an indication of when the latch of the child safety seat is
- 8 coupled to said sensor.
- 1 16. The system of claim 15, further comprising a
- 2 controller that receives an input signal from said sensor
- 3 and provides an output signal to said display to indicate
- 4 when the latch of the child safety seat is coupled to said
- 5 sensor.
- 1 17. The system of claim 15, wherein said sensor
- 2 includes a ring that is coupled to the latch of the child
- 3 safety seat.

- 1 18. The system of claim 15, wherein said sensor
- 2 includes a first housing member, and a second housing
- 3 member that can move relative to said first housing member,
- 4 and a biasing spring that is coupled to said first and
- 5 second housing members.
- 1 19. The system of claim 15, wherein said sensor
- 2 includes a magnet and a Hall Effect sensor.
- 1 20. The system of claim 15, wherein said sensor
- 2 includes a switch.
- 1 21. The system of claim 18, wherein said first housing
- 2 member includes a flange adapted to be mounted to a seat
- 3 frame of the seat assembly.
- 1 22. The system of claim 18, wherein said first housing
- 2 member includes a stop that limits the movement of said
- 3 second housing member.
- 1 23. A sensor system that senses when a latch of a
- 2 child safety seat is placed on a seat assembly, comprising:

- 3 sensor means for sensing when the latch of the child
- 4 safety seat is coupled to the seat assembly; and,
- a display that is coupled to said sensor means and
- 6 provides an indication of when the latch of the child
- 7 safety seat is coupled to the seat assembly.
- 1 24. The system of claim 23, further comprising a
- 2 controller that receives an input signal from said sensor
- 3 means and provides an output signal to said display to
- 4 indicate when the latch of the child safety seat is coupled
- 5 to seat assembly.
- 1 25. The system of claim 23, wherein said sensor means
- 2 includes a ring that is coupled to the latch of the child
- 3 safety seat.
- 1 26. The system of claim 23, wherein said sensor means
- 2 includes a first housing member, and a second housing
- 3 member that can move relative to said first and second
- 4 housing member and a biasing spring that is coupled to said
- 5 first housing members.

- 1 27. The system of claim 23, wherein said sensor means
- 2 includes a magnet and a Hall Effect sensor.
- 1 28. The system of claim 23, wherein said sensor means
- 2 includes a switch.
- 1 29. The system of claim 26, wherein said first housing
- 2 member includes a flange mounted to a seat frame of the
- 3 seat assembly.
- 1 30. The system of claim 26, wherein said first housing
- 2 member includes a stop that limits the movement of said
- 3 second housing member.
- 1 31. A method for sensing when a latch of a child
- 2 safety seat is coupled to a seat assembly, comprising:
- 3 coupling the latch of the child safety seat to a sensor
- 4 that is mounted to the seat assembly; and,
- 5 displaying an indication that the latch of the child
- 6 safety seat is coupled to the sensor.
- 1 32. The method of claim 31, wherein the sensor
- provides an input signal to a controller that provides an Atty. Docket No. 158129-0005 18 BJY/wrj Express Mail Label No. EL697015758US 1087418

- 3 output signal to the display to indicate that the latch of
- 4 the child safety seat is coupled to the sensor.
- 1 33. The method of claim 32, wherein the input signal
- 2 has a varying amplitude.
- 1 34. The method of claim 32, wherein input signal has
- 2 one of two values.
- 1 35. A seat assembly that is coupled to a latch of a
- 2 child safety seat, comprising:
- 3 a seat frame;
- a seat cushion located on said seat frame; and,
- 5 a sensor that is mounted to said seat frame and is
- 6 coupled to the latch of the child safety seat.
- 1 36. The assembly of claim 35, wherein said sensor
- 2 includes a ring that is coupled to the latch of the child
- 3 safety seat.
- 1 37. The assembly of claim 35, wherein said sensor
- 2 includes a first housing member, and a second housing
- 3 member that moves relative to said first housing member,

- 4 and a biasing spring that is coupled to said first and
- 5 second housing members.
- 1 38. The assembly of claim 35., wherein said sensor
- 2 includes a magnet and a Hall Effect sensor.
- 1 39. The assembly of claim 35, wherein said sensor
- 2 includes a switch.
- 1 40. The assembly of claim 37, wherein said first
- 2 housing member includes a flange that is mounted to said
- 3 seat frame.
- 1 41. The assembly of claim 37, wherein said first
- 2 housing member includes a stop that limits the movement of
- 3 said second housing member.
- 1 42. A seat assembly that is coupled to a latch of a
- 2 child safety seat, comprising:
- 3 a seat frame;
- a seat cushion located on said seat frame; and,
- sensor means for sensing when the latch of the child
- 6 safety seat is coupled to said seat frame.

- 1 43. The assembly of claim 42, wherein said sensor
- 2 means includes a ring that is coupled to the latch of the
- 3 child safety seat.
- 1 44. The assembly of claim 42, wherein said sensor
- 2 means includes a first housing member, and a second housing
- 3 member that moves relative to said first housing member,
- 4 and a biasing spring that is coupled to said first and
- 5 second housing members.
- 1 45. The assembly of claim 42, wherein said sensor
- 2 means includes a magnet and a Hall Effect sensor.
- 1 46. The assembly of claim 42, wherein said sensor
- 2 means includes a switch that is coupled to said second
- 3 housing member.
- 1 47. The assembly of claim 44, wherein said first
- 2 housing member includes a flange mounted to said seat
- 3 frame.

- 1 48. The assembly of claim 44, wherein said first
- 2 housing member includes a stop that limits the movement of
- 3 said second housing member.
- 4 49. A sensor system that is coupled to a latch of a
- 5 child safety seat that is placed on a seat assembly,
- 6 comprising:
- 7 a sensor that is mounted to the seat assembly and
- 8 coupled to the latch of the child safety seat; and,
- an airbag that is disabled when the latch of the child
- 10 safety seat is coupled to said sensor.
 - 1 50. The system of claim 49, further comprising a
 - 2 controller that receives an input signal from said sensor
 - 3 and provides an output signal to disable said airbag when
- 4 the latch of the child safety seat is coupled to said
- 5 sensor.
- 1 51. The system of claim 49, wherein said sensor
- 2 includes a ring that is coupled to the latch of the child
- 3 safety seat.

- 1 52. The system of claim 49, wherein said sensor
- 2 includes a first housing member, and a second housing
- 3 member that can move relative to said first housing member,
- 4 and a biasing spring that is coupled to said first and
- 5 second housing members.
- 1 53. The system of claim 49, wherein said sensor
- 2 includes a magnet and a Hall Effect sensor.
- 1 54. The system of claim 49, wherein said sensor
- 2 includes a switch.
- 1 55. The system of claim 52, wherein said first housing
- 2 member includes a flange adapted to be mounted to a seat
- 3 frame of the seat assembly.
- 1 56. The system of claim 52, wherein said first housing
- 2 member includes a stop that limits the movement of said
- 3 second housing member.
- 1 57. A sensor system that senses when a latch of a
- 2 child safety seat is placed on a seat assembly, comprising:

- 3 sensor means for sensing when the latch of the child
- 4 safety seat is coupled to the seat assembly; and,
- 5 an airbag that is disabled when the latch of the child
- 6 safety seat is coupled to said sensor means.
- 1 58. The system of claim 57, further comprising a
- 2 controller that receives an input signal from said sensor
- 3 means and provides an output signal to said disable said
- 4 airbag when the latch of the child safety seat is coupled
- 5 to seat assembly.
- 1 59. The system of claim 57, wherein said sensor means
- 2 includes a ring that is coupled to the latch of the child
- 3 safety seat.
- 1 60. The system of claim 57, wherein said sensor means
- 2 includes a first housing member, and a second housing
- 3 member that can move relative to said first and second
- 4 housing member and a biasing spring that is coupled to said
- 5 first housing members.
- 1 61. The system of claim 57, wherein said sensor means
- 2 includes a magnet and a Hall Effect sensor.

- 1 62. The system of claim 57, wherein said sensor means
- 2 includes a switch.
- 1 63. The system of claim 60, wherein said first housing
- 2 member includes a flange mounted to a seat frame of the
- 3 seat assembly.
- 1 64. The system of claim 60, wherein said first housing
- 2 member includes a stop that limits the movement of said
- 3 second housing member.
- 1 65. A method for sensing when a latch of a child
- 2 safety seat is coupled to a seat assembly, comprising:
- 3 coupling the latch of the child safety seat to a sensor
- 4 that is mounted to the seat assembly; and,
- disabling an airbag when the latch of the child safety
- 6 seat is coupled to the sensor.
- 1 66. The method of claim 65, wherein the sensor
- 2 provides an input signal to a controller that provides an
- 3 output signal to disable the airbag when the latch of the
- 4 child safety seat is coupled to the sensor.

- 1 67. The method of claim 66, wherein the input signal
- 2 has a varying amplitude.
- 1 68. The method of claim 66, wherein input signal has
- 2 one of two values.
- 1 69. A sensor system that is coupled to a latch of a
- 2 child safety seat that is placed on a seat assembly,
- 3 comprising:
- a sensor that is mounted to the seat assembly and
- 5 coupled to the latch of the child safety seat; and,
- a seat movement device that is disabled when the latch
- 7 of the child safety seat is coupled to said sensor.
- 1 70. The system of claim 69, further comprising a
- 2 controller that receives an input signal from said sensor
- 3 and provides an output signal to disable said seat movement
- 4 device when the latch of the child safety seat is coupled
- 5 to said sensor.

- 1 71. The system of claim 69, wherein said sensor
- 2 includes a ring that is coupled to the latch of the child
- 3 safety seat.
- 1 72. The system of claim 69, wherein said sensor
- 2 includes a first housing member, and a second housing
- 3 member that can move relative to said first housing member,
- 4 and a biasing spring that is coupled to said first and
- 5 second housing members.
- 1 73. The system of claim 69, wherein said sensor
- 2 includes a magnet and a Hall Effect sensor.
- 1 74. The system of claim 69, wherein said sensor
- 2 includes a switch.
- 1 75. The system of claim 72, wherein said first housing
- 2 member includes a flange adapted to be mounted to a seat
- 3 frame of the seat assembly.
- 1 76. The system of claim 72, wherein said first housing
- 2 member includes a stop that limits the movement of said
- 3 second housing member.

- 1 77. A sensor system that senses when a latch of a
- 2 child safety seat is placed on a seat assembly, comprising:
- 3 sensor means for sensing when the latch of the child
- 4 safety seat is coupled to the seat assembly; and,
- a seat movement device that is disabled when the latch
- 6 of the child safety seat is coupled to the seat assembly.
- 1 78. The system of claim 77, further comprising a
- 2 controller that receives an input signal from said sensor
- 3 means and provides an output signal to disable said seat
- 4 movement device when the latch of the child safety seat is
- 5 coupled to seat assembly.
- 1 79. The system of claim 77, wherein said sensor means
- 2 includes a ring that is coupled to the latch of the child
- 3 safety seat.
- 1 80. The system of claim 77, wherein said sensor means
- 2 includes a first housing member, and a second housing
- 3 member that can move relative to said first and second
- 4 housing member and a biasing spring that is coupled to said
- 5 first housing members.

- 1 81. The system of claim 77, wherein said sensor means
- 2 includes a magnet and a Hall Effect sensor.
- 1 82. The system of claim 77, wherein said sensor means
- 2 includes a switch.
- 1 83. The system of claim 80, wherein said first housing
- 2 member includes a flange mounted to a seat frame of the
- 3 seat assembly.
- 1 84. The system of claim 80, wherein said first housing
- 2 member includes a stop that limits the movement of said
- 3 second housing member.
- 1 85. A method for sensing when a latch of a child
- 2 safety seat is coupled to a seat assembly, comprising:
- 3 coupling the latch of the child safety seat to a sensor
- 4 that is mounted to the seat assembly; and,
- disabling a seat movement device when the latch of the
- 6 child safety seat is coupled to the sensor.
- 1 86. The method of claim 85, wherein the sensor
- provides an input signal to a controller that provides an
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- 3 output signal to disable the seat movement device when the
- 4 latch of the child safety seat is coupled to the sensor.
- 1 87. The method of claim 86, wherein the input signal
- 2 has a varying amplitude.
- 1 88. The method of claim 86, wherein input signal has
- 2 one of two values.